
Link-11 Segment 2.3.0.0

(for Unified Build 3.0.2.5)

Version Description Document

1. System Overview

The Link-11/TADIL-A core component adds passive and two-way Link-11/TADIL-A capability to Defense Information Infrastructure (DII) Common Operating Environment (COE) Unified Build Core-based systems.

This version of Link-11/TADIL-A satisfies multiple platform requirements using an implementation independent approach. Implementations currently supported include: FFG7 for Coast Guard, ATACC/TAOM for Marine Corps, Submarine for CCS Mk2, and TSC.

The host computers for DII COE are the Tactical Advanced Computer, version 3/4 (TAC-3/TAC-4) with the HP-UX 10.20 operating system and the Sparc 10/20 with Solaris 2.5.1 operating system. Two-way Link-11 is supported on HP only, using the GET Engineering Full Wide NTDS card (# 10078501).

The L11Adm segment loads the configuration menus that enable the two-way capability. Loading the L11Adm segment will select the two-way implementation table by default.

2. Applicable Documents

! Unified Build (UB) 3.0.2.5 System Test Report
(UB3.0.2.5:STR1.0 4/14/97)

All user-related documents are being reissued with this software release. See Section 3.1, Inventory of Materials Released, for an itemized list.

3. Version Description

3.1 Inventory of Materials Released

Magnetic media:

The Link-11 2.3.0.0 (for UB 3.0.2.5) Segment on a 4mm DAT cartridge is intended for:

! TAC-3/TAC-4 hardware environment. The segment can be run on DII COE
Kernel Version 3.0.1.0 supporting HP-UX 10.20.

The Link-11 2.3.0.0 (for UB 3.0.2.5) Segment on an 8mm EXABYTE cartridge is intended for:

! Sparc 10/20 hardware environment. The segment can be run on DII COE

Kernel Version 3.0.0.3P2 supporting Solaris Operating System Version 2.5.1.

Documents:

- ! Installation Procedures for the Link-11 Segment (Version 2.3.0.0) of Unified Build (UB) 3.0.2.5 (Link-11/3.0.2.5:IP1.0 4/14/97)
- ! Software User's Manual Link-11/TADIL A Version 2.3.0.0 (Link-11 2.3.0.0:SUM1.0 4/14/97)
- ! Link-11 Segment 2.3.0.0 (for Unified Build 3.0.2.5) Version Description Document (Link-11/3.0.2.5:VDD1.0 4/14/97)

3.2 Software Changes

The following software trouble reports (STRs) and software change proposals (SCPs) have been implemented in Link-11 Segment Version 2.3.0.0.

DU00435 Update force code processing to be IAW OS-OTG Rev B, Chg 2.

Problem: Update the force code processing to be in accordance with the OS-OTG Specification (Rev. B, Chg. 2). These changes, which went into effect on 01-Oct-96, included a copy of Table 5-1 from the OS-OTG spec with the required changes outlined. **Recommend that these changes be included in release 3.0.2.3 (expected delivery Dec 96) to allow sufficient test time prior to certification.** This will be a NCTSI certification issue. CCB comments/history LCCB 11/13/96: Accepted and awaiting build plan assignment from the CCB. This NCR must be fixed prior to NCTSI certification of next release.

Action: Implemented SCP in 3.0.2.5. Updated Force Code processing to OTG Change 2 Rev B.

INRI #: 30200000492

TDL00000711 Stop-xmit sync problem.

Problem: It appears starting then stopping xmit on the same track in the following sequence PTT, START, STOP, PTT (with PTRS thrown in at random) cause a synchronization problem in the system.

Action: Problem Corrected.

TDL00001105	Incorrect M9A5 periodics.
Problem:	TSC had R2 for surface track & xmit M9A5 Force Tell on it. TSC used Non-R2 rules for periodics rather than R2 rules. OS411.2 A.22A(7) (A)3. See also MIL-STD-6011 page 5-251, TA TX 6C. Reference: JITC TR JT 3080B.
Action:	Problem Corrected.
TDL00001111	Unable to Link XMIT an eligible track.
Problem:	Track block = 2000-2007. Assigned all TNS. Assigned another track - symbology showed an 'x'. Waited a minute, dropped 2005. The eligible track didn't xmit. Selected it & xmit on Link, it still won't go - 'already xmitted on Link". Dropped 2006. Still could get nothing existing to go. Created another new track - it went as 2005. Appears tracks stopped at the instant of transmission are not being reprocessed/requeued.
Action:	Problem Corrected.
TDL00001120	Lost local data on Non-RR track with no associated Platform track.
Problem:	Had air track without RR, but local data with no associated Platform track. Expiration caused loss of track. We should have taken RR.
Action:	Problem Corrected.
TDL00001130	Add support for Extended Range Link-11.
Problem:	Add support for Extended Range Link-11.
Action:	Functionality implemented.
TDL00001152	ESM Link track printout - field missing & out of order.
Problem:	Did a print of an ESM Link track window. The "KIND" field is missing. ANT POLARIZATION & SCAN PERIOD are not in the right order in the list.
Action:	Problem Corrected.

TDL00001154	Link print of window is too large for paper.
Problem:	Some of the printouts of Link tracks are too large for the paper. Track types too big are subsurface, ASW TACT PT, Sonobuoy, ASW BRNG, ADP & SPCL PT. The last report data gets cut off.
Action:	Problem Corrected.
TDL00001157	Table change - M.11B.
Problem:	M.11B spare (21-23) is divided and has descriptors like real fields. It should be spare and NT/NP.
Action:	Problem Corrected.
TDL00001159	Special point originates with TSW=UPDATE.
Problem:	Create/transmit a special point and the TSW=1 vice 0 on the initial transmit.
Action:	Problem Corrected.
TDL00001163	M11M/M811M table change.
Problem:	Enhance TSC table to include M11M and M811M message processing.
Action:	Problem Corrected.
TDL00001164	Xmit DLRP does not work as intended.
Problem:	The xmit DLRP currently will xmit only if the button is selected and DLRP is changed. Navy design of the M.9G message intended the message to be transmitted with the existing DLRP for SSNS joining the net after being submerged. Change design to xmit current DLRP when the button is selected.
Action:	Problem Corrected.
TDL00001165	Table change - M.9E3.
Problem:	Modify TSC table for M.9E3. Please enable the track pop-up for NATO TN.

Action:	Problem Corrected.
TDL00001189	Incorrectly processes point type 13 spare bits.
Problem:	Refer to NCTSI certification analysis test results for U.S. Coast Guard.
Action:	Problem Corrected.
TDL00001196	AOUs varied by track type and track quality for TX air/surface tracks.
Problem:	AOUs varied by track type and track quality for TX air/surface tracks.
Action:	Problem Corrected.
TDL00001197	ASW bearing categories are incorrect.
Problem:	ASW bearing categories are incorrect when creating a new ASW BRG track and when receiving an ASW BRG track. Was DEF vice UNK/SUB/NAV, depending upon class.
Action:	Problem Corrected.
TDL00001198	Emerg and Force Tell buttons active on passive mode.
Problem:	When the program is in passive mode, the right-button options for emergency, Force Tell, and request 19-bit track number are all active. These should not be active, since there is no chance for these options to be used.
Action:	Problem Corrected.
TDL00001199	Implementations are OS dependent.
Problem:	Remove OS (compiler) dependency for Link-11 implementation tables.
Action:	Problem Corrected.

TDL00001200	Only change global data on postinstall/deinstall if on Tdbm master.
Problem:	Only change global data on postinstall/deinstall if on Tdbm master.
Action:	Problem Corrected.
TDL00001201	Geo display filters do not activate or display.
Problem:	Geo display filters do not activate and do not display. Circle and square figures were tested.
Action:	Problem Corrected.
TDL00001202	Didn't TX Ownship IFF Mode 2 codes.
Problem:	Edits to send IFF Mode 2 codes on Ownship PU didn't xmit over Link, but did alter display of PU from 30 to 50, sometimes 20040, but never corrupted the PU being sent over the Link.
Action:	Problem Corrected.
TDL00001203	Symbol modifier wrong.
Problem:	Many received Link-11 tracks have LN modifier. Should be LR. Problem most prevalent in special points, but was also noted in other symbol types without consistency.
Action:	Problem Corrected.
TDL00001205	Sonobuoy misspelled.
Problem:	Sonobouy should be sonobuoy in the Misc. Link-11 window.
Action:	Problem Corrected.
TDL00001210	ASW summary - BRNGs are doubled.
Problem:	Received ASW summary BRNGs are double what was sent. Sent 045 RX 090, sent 180 RX 360, sent 222 RX 444.
Action:	Problem Corrected.

TDL00001211	Geo filter window operation confusing.
Problem:	Operation of the main Geo Filter window is confusing.
Action :	Change Implemented.
TDL00001212	POFA air time absurdly large.
Problem:	Air time on the POFA Multi-station window is always an absurdly large incorrect value.
Action:	Problem Corrected.
TDL00001215	Filter overlays - remove filter management from main.
Problem:	Move geo filter overlay management from dialog manager to filter executable. Overlays will now be 'alive' only when filter executable is running, and on the machine that that it is invoked from.
Action:	Change implemented.
TDL00001216	Ignoring future Ownship updates.
Problem:	Running Link on jots2, which has a time 5 minutes behind jots1. Link ignores Ownship updates, because they have a time 5 minutes in the future.
Action:	Problem corrected. Treat future Ownship updates as current time.
TDL00001218	Receive quality is always zero for all PU's.
Problem:	Displaying and transmitting zero for PU receive quality.
Action:	Problem Corrected.
TDL00001219	Parse PU configuration message from SMMTT.
Problem:	Parse PU configuration message from SMMTT.
Action:	Functionality added.

TDL00001220	Parse gridlock message from SMMTT.
Problem:	Parse gridlock message from SMMTT.
Action:	Functionality added.
TDL00001221	Parse inactive PU message from SMMTT.
Problem:	Parse inactive PU message from SMMTT.
Action:	Functionality added.
TDL00001222	Parse plain text message from SMMTT.
Problem:	Parse plain text message from SMMTT.
Action:	Functionality added.
TDL00001223	Accept automatic track transmit commands from SMMTT.
Problem:	Use Link-11-tracks with new option: XMIT-AUTOMATIC.
Action :	Functionality added.
TDL00001224	Create SMMTT implementation table.
Problem:	Include option tag to determine that the system is in SMMTT mode, change xmit bits on categories that SMMTT wants to xmit.
Action:	Functionality added.
TDL00001228	Size not displayed on received SUR track.
Problem:	Size not displayed on received SUR track. ID AMP is joker (R0).
Action:	Problem Corrected.
TDL00001229	Right pop-ups don't work on plain text and POFA windows.
Problem:	Right pop-up notification doesn't get to the plain text and POFA applications when XDM goes into a degraded state.
Action:	Problem Corrected.

TDL00001235 Add support for the new pairing functionality in 3.0.2.5 DII COE.

Problem: Add support for the new pairing functionality in 3.0.2.5 DII COE.

Action: Functionality added.

TDL00001236 MX512P needs to open devices in /tmp/vids vice /dev.

Problem: MX512P needs to open devices in /tmp/vids vice /dev; use jotstmpfile().

Action: Problem Corrected.

TDL00001237 Replace open and fopen calls with secure open.

Problem: Replace open and fopen calls with secure open.

b Functionality implemented.

TDL00001238 Add Link track symbol hash key generation.

Problem: Link symbol hash keys are no longer generated automatically by Tdbm in the latest version of DII COE, so the Link program needs to generate them.

Action: Functionality implemented.

TDL00001239 M.9E action 3 NATO track number and 19-bit track number not encoded correctly on Link.

Problem: M9E action 3 values not displayed correctly. Refer to OS-411 Appendix F for decoding/encoding requirements.

Action: Problem Corrected.

TDL00001241 Only reset passive serial upon error.

Problem: For passive EDO and IH, only reset the interface upon read error, not EOF.

Action: Problem Corrected.

TDL00001242 Update threat definitions to GOLD Spec Rev B.

Problem: Update threat definitions to GOLD Spec Rev B.

Action: Functionality added.

TDL00001246 Special codes not transmitting.

Problem: special codes don't transmit when assuming RR of a track.

Action: Problem Corrected.

4. Impact on Developers

A. Segment developers will be required to:

! For map capabilities, use NIMA Joint Mapping Toolkit (JMTK) based on Joint Mapping Toolkit Visualization Component 3.0.2.5 for the 3.0.2.5 delivery. Any previous versions of JMTK are totally incompatible with UB 3.0.2.5.

! Use the delivered version of DII COE ConvertSeg and VerifySeg tools to create and verify segments.

B. Bug in COEInstaller

Developers need to be aware of a bug in the COEInstaller, with respect to the environment variable \$INSTALL_DIR. This environment variable is **not** set until **after** the DEINSTALL script has run. Therefore, if developers use the \$INSTALL_DIR variable without setting it up in their DEINSTALL script, the deinstall will fail.

The problem arises if developers use their \$INSTALL_DIR as follows, without the variable being previously initialized:

```
if ($?INSTALL_DIR) then
    setenv XXX_HOME    $INSTALL_DIR
else
    setenv XXX_HOME    /h/XXX
endif
```

When more than one segment is deinstalled at the same time, the \$INSTALL_DIR for the last segment deinstalled is used rather than the home directory of the developer's segment. Therefore, it is necessary to manually set the \$INSTALL_DIR variable in the DEINSTALL script by adding this code at the beginning of the script:

```
unset INSTALL_DIR
set INSTALL_DIR = /h/XXX
```

where XXX = the name of the segment directory